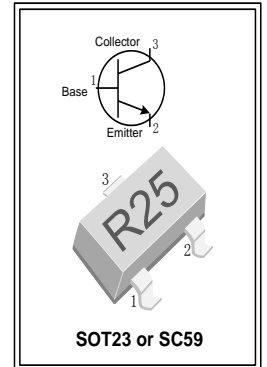


2SC3356 NPN TRANSISTOR MICROWAVE LOW NOISE AMPLIFIER NPN SILICON EPITAXIAL TRANSISTOR

1. 简述:

- ✚ 具有大功率增益放大以及低噪声特性，大动态范围，理想的电流线性；
- ✚ 主要应用于超高频微波无线射频放大、VHF、UHF 和 CATV 高频宽带低噪声放大器、无线遥控器、射频模块、光纤模块等电路中；
- ✚ 集电极-发射极击穿电压： $BV_{CEO} \geq 12V$ or $\geq 20V$ ，最大集电极电流： $I_C \geq 100mA$ ，集电极功率： $P_C \geq 200mW$ ，特征频率： $f_T = 7GHz$ ；
- ✚ 封装形式：SC59、SOT23，本体印字：R23、R24、R25 以及 R25+（其中 R25+ 的 $BV_{CEO} \geq 20V$ ，适合应用于集电极发射极上的有效电压大于 12V 小于 20V 的情况下使用）；
- ✚ 直流放大倍数分档对应的塑封本体印字：



CLASSIFICATION OF h_{FE}

Marking	R23	R24	R25	R25+
RANK	R23	R24	R25	R25+
h_{FE}	50 - 100	80 - 160	125 - 250	125 - 250 ($BV_{CEO} \geq 20V$)

2. 极限参数 ($T_{amb} = 25^\circ C$) :

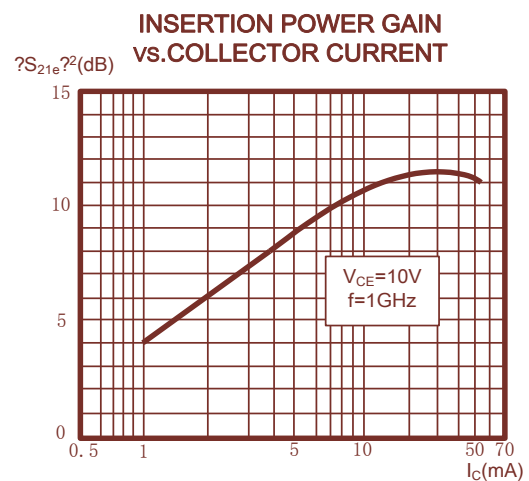
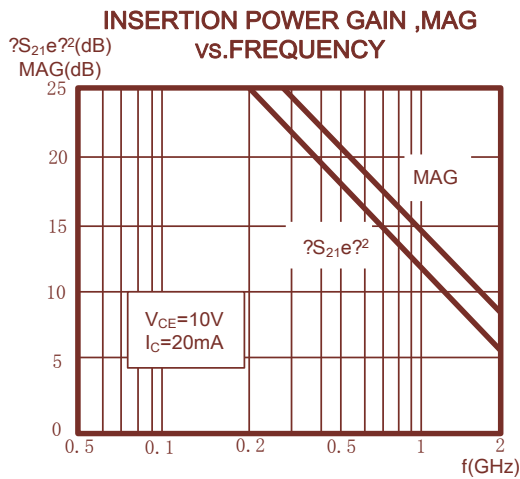
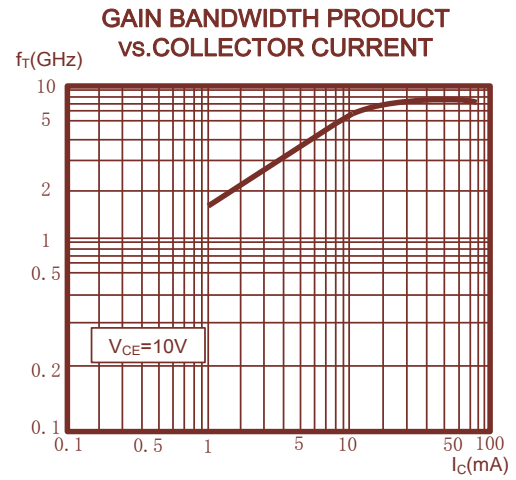
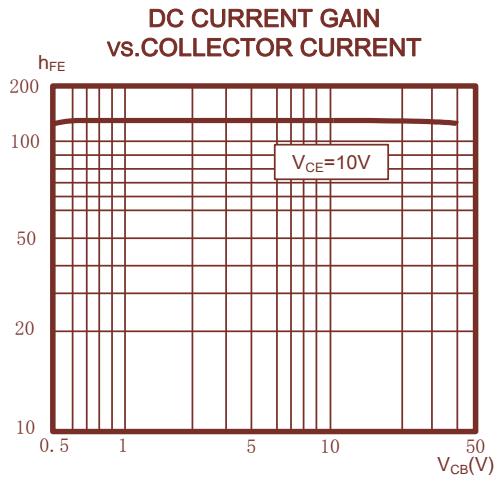
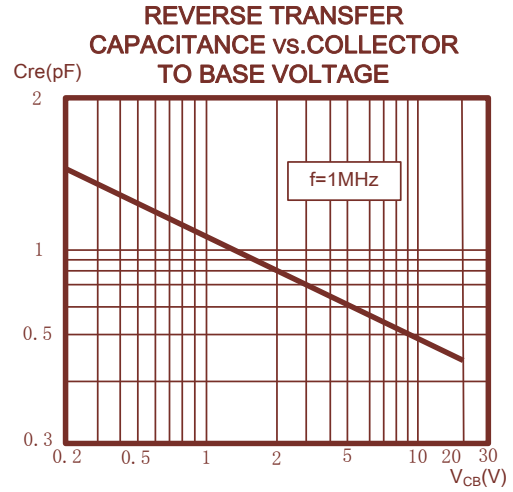
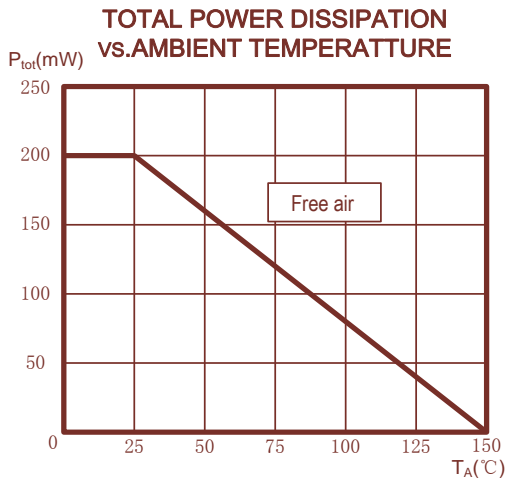
参数名称	符号	额定值	单位
集电极-基极击穿电压	BV_{CBO}	20	V
集电极-发射极击穿电压	BV_{CEO}	12 or 20 (R25+)	V
发射极-基极击穿电压	BV_{EBO}	3	V
集电极电流	I_C	100	mA
耗散功率	P_T	200(SC59、SOT23)	mW
最高结温	T_J	150	$^\circ C$
储存温度	T_{stg}	-65 ~ +150	$^\circ C$

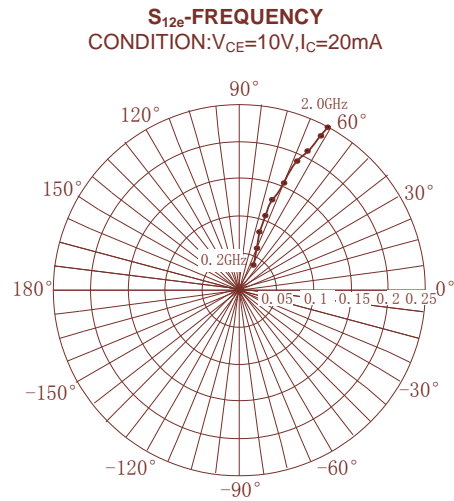
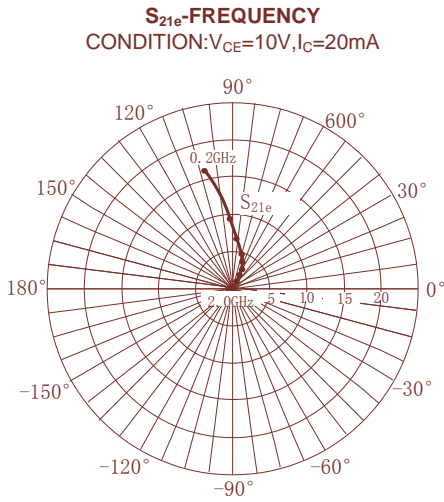
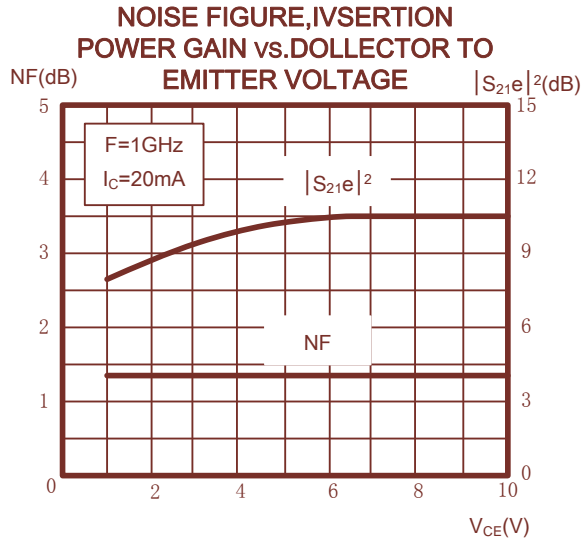
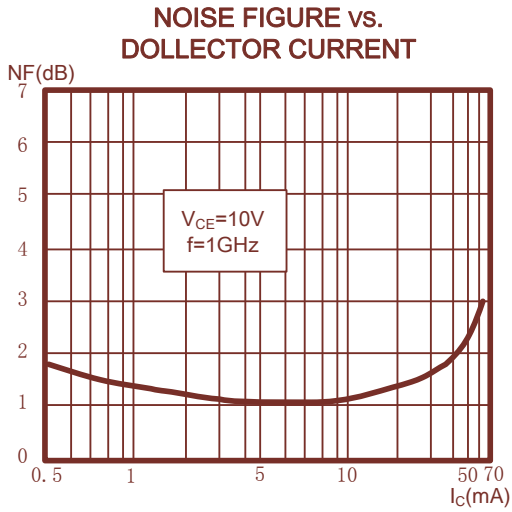
3. 电参数及规格 ($T_{amb} = 25^\circ C$) :

参数名称	符号	测试条件	最小值	典型值	最大值	单位
集电极截止电流	I_{CBO}	$V_{CB} = 6V, I_E = 0$	-	-	0.05	μA
直流电流放大系数	h_{FE}	$V_{CE} = 10V, I_C = 20mA$	60	120	250	
特征频率	f_T	$V_{CE} = 10V, I_C = 20mA$	-	7	-	GHz
反馈电容	C_{re}	$I_C = I_C = 0, V_{CB} = 10V, f = 1MHz$	-	0.55	1.0	pF
集电极电容	C_C	$I_E = I_E = 0, V_{CB} = 10V, f = 1MHz$	-	0.8	-	pF
发射极电容	C_e	$I_C = I_C = 0, V_{EB} = 0.5V, f = 1MHz$	-	1.6	-	pF
插入功率增益	$ S_{21} ^2$	$I_C = 20mA, V_{CE} = 10V, f = 1GHz$	-	11.5	-	dB
噪声系数	NF	$V_{CE} = 10V, I_C = 7mA, f = 1GHz$	-	1.0	2.0	dB

3. 典型特征曲线:

TYPICAL CHARACTERISTICS
($T_A=25^{\circ}\text{C}$, unless otherwise specified)

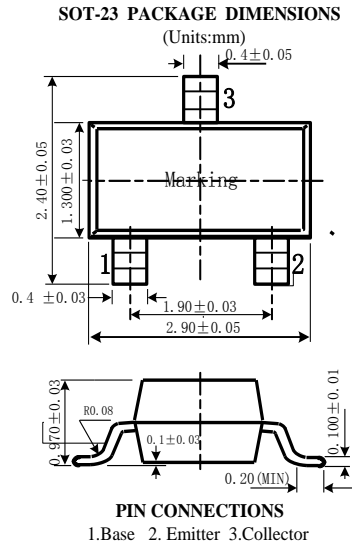
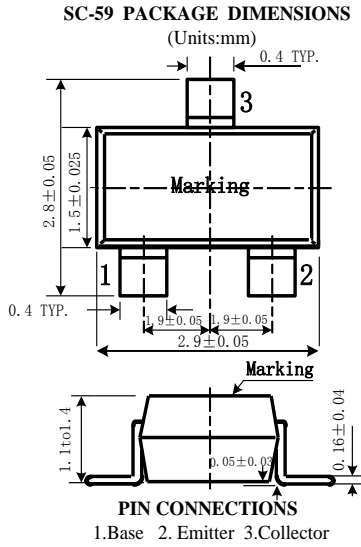




S-PARMETER(@ $V_{CE}=10V, I_C=20mA, Z_0=50\Omega$):

f(MHz)	$ S_{11} ^2$ (dB)	$\angle S_{11}$	$ S_{21} ^2$ (dB)	$\angle S_{21}$	$ S_{12} ^2$ (dB)	$\angle S_{12}$	$ S_{22} ^2$ (dB)	$\angle S_{22}$
200	-7.917	-123.8	24.246	106.0	-29.169	59.8	-7.746	-44.4
315	-8.789	-146.8	20.664	95.7	-26.577	63.3	-9.891	-43.7
400	-9.005	-155.4	18.965	91.6	-25.235	65.4	-10.639	-42.9
433	-9.084	-159.5	18.095	89.5	-24.505	65.7	-10.965	-42.6
600	-9.322	-170.4	15.479	83.4	-22.233	68.0	-11.651	-42.2
800	-9.556	-179.2	13.211	77.6	-20.090	68.9	-11.771	-42.7
900	-9.673	176.1	12.220	74.6	-19.111	68.8	-11.691	-43.4
1000	-9.844	172.7	11.341	72.0	-18.233	68.9	-11.516	-44.0
1200	-10.171	166.5	9.953	67.4	-16.785	68.3	-11.216	-45.3
1400	-10.461	159.2	8.731	62.6	-15.436	67.3	-10.891	-46.8
1600	-10.562	151.8	7.704	57.9	-14.260	66.0	-10.696	-49.0
1800	-10.515	144.9	6.887	53.7	-13.298	64.5	-10.683	-51.4
2000	-10.208	137.6	6.113	49.4	-12.373	62.7	-10.909	-55.2
2300	-9.522	129.0	5.190	43.7	-11.289	60.1	-11.442	-62.5

5. 封装形式及其对应尺寸示意图:



6. 包装信息:

PACKAGE INFORMATION

封装形式 Package	数量/盘 Shipping	盘/中盒 Inner Box	中盒/箱 Carton
SC-59	3000pcs/Tape&Reel	10Tape&Reel	4 Inner Box
SOT-23	3000pcs/Tape&Reel	10 Tape&Reel	4 Inner Box